



UNITED STATES PATENT AND TRADEMARK OFFICE

clm

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/543,008

07/21/2005

Stefan Huber

112740-1085

2577

29177 7590 10/15/2007
BELL, BOYD & LLOYD, LLP
P.O. BOX 1135
CHICAGO, IL 60690

EXAMINER

KARACSONY, ROBERT

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

10/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/543,008

Applicant(s)

HUBER ET AL.

Examiner

Robert Karacsony

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to amendments received August 02, 2007. Claims 12-22 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 12 and 15-21 rejected under 35 U.S.C. 102(e) as being anticipated by *Tan et al.* (US 6,680,705, hereinafter *Tan*).

Claim 12: *Tan* teaches a multiband antenna array for a mobile radio equipment, comprising:

a planar patch antenna (201) having a plurality of resonances (col. 2/lines 50-52) and is further coupled to a ground connection (205) and to a high-frequency interface (203); and

a plurality of parasitic transmitters (801,601), wherein said transmitters are located marginal to the planar patch antenna (fig. 8) and are each embodied so as to be free of a high-frequency interface (fig. 8), wherein the parasitic transmitters are arranged as line-type conductor structures (fig. 8, Applicant does not disclose the meaning of “line-type conductor” in the Specification and the term “line-type conductor” is not well known in the art, therefore, examiner interprets “line-type conductor” as a conductor long in proportion to its breadth), whereas the structures of the planar patch antenna are arranged as sheet-type conductor structures (fig. 8).

Claim 15: *Tan* teaches at least one parasitic transmitter is free of connection to ground (fig. 8).

Claim 16: *Tan* teaches the plurality of parasitic transmitters are arranged on opposite sides of the planar patch antenna (fig. 8).

Claim 17: *Tan* teaches the plurality of parasitic transmitters are located on adjacent sides of the planar patch antenna. (fig. 8).

Claims 18-20: *Tan* teaches at least one parasitic transmitter extends at least partially over two, three and four adjacent sides of the planar patch antenna (fig. 8 illustrates '801' extending over a slit comprising 7 sides of the planar patch antenna).

Claim 21: the planar patch antenna and the parasitic transmitters are arranged in a plane (since both elements are planar they must inherently lie in a plane).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tan* in view of *Pederson, Gert Frolund* (EP 1067627, hereinafter *Pederson*).

Claims 2 and 3: *Tan* teaches all of the limitations of claim 1, as discussed above. *Tan* fails to teach the plurality of parasitic transmitters are provided with a shared connection to ground. However, it is well known to one having ordinary skill in the art that parasitic radiators can be coupled to ground or not coupled to ground. *Pederson* teaches sharing the ground

Art Unit: 2821

connection to the parasitic radiators (fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have connected the parasitic elements of *Tan* to ground as taught by Pederson, since it is well known in the art to ground parasitic elements.

Allowable Subject Matter

6. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 22 would be allowable because prior art fails to teach a multiband antenna array according to claim 12, wherein at least one parasitic transmitter has a spatial extension, emerging perpendicular out of the plane of the planar patch antenna.

Response to Arguments

7. Applicant's arguments, see page 4, lines 20-29, filed August 02, 2007, with respect to the rejection(s) of claim(s) 12 under 35 USC 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of *Tan*.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Karacsony whose telephone number is 571-270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

Art Unit: 2821

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RK/

/Hoang V Nguyen/
Primary Examiner, AU 2821